

THE CAVENTISH-STREET SCHOOLS,
MANCHESTER.

In the course of our notes in Manchester at the end of last year,* we mentioned an extensive school-house, then building, in Cavendish-street, behind Dr. Halley's Independent Chapel. The annexed engraving is a representation of the schools, and shews also a part of the chapel.

The building covers an area 127 ft. by 44 ft., containing boys', girls', and infants' schools on the ground floor. A spacious centre staircase leads to the grand centre hall, or Sunday school, on the upper floor, 80 ft. by 40 ft., with library and lecture room at either end, 44 ft. by 20 ft., separated from the hall by an enriched screen (glazed), affording a view of the entire range of building.

The height of the hall is 38 feet, divided into seven bays, with open principals filled in with tracery. The hall is lighted by seven three-light windows on each side. Galleries carried on projecting brackets from the screens on three sides of the hall, afford communication to ten class-rooms over library and lecture rooms, these rooms being only 14 ft. in height. The schools on the ground floor are 18 ft. 6 in. high. In the basement are kitchens, and on the ground floor, in addition to what has been mentioned, are accommodations for parties residing on the premises.

The cost of the building was 4,700*l.* without fittings, these, namely forms and desks, will probably cost 500*l.* more.

The building was erected under the superintendence of Mr. Edward Walters, architect.

PROCEEDINGS AT BIRMINGHAM, MANCHESTER, AND HULL.

SANITARY inquiries have been going on at Birmingham and Hull; and one of the aldermen of Manchester has been lecturing his colleagues and constituents there on the sanitary, business, and other general improvement of that busy city.

The Government Inspector at Birmingham was Mr. R. Rawlinson, appointed by the Board of Health in compliance with the request of one-tenth of the ratepayers of the borough.

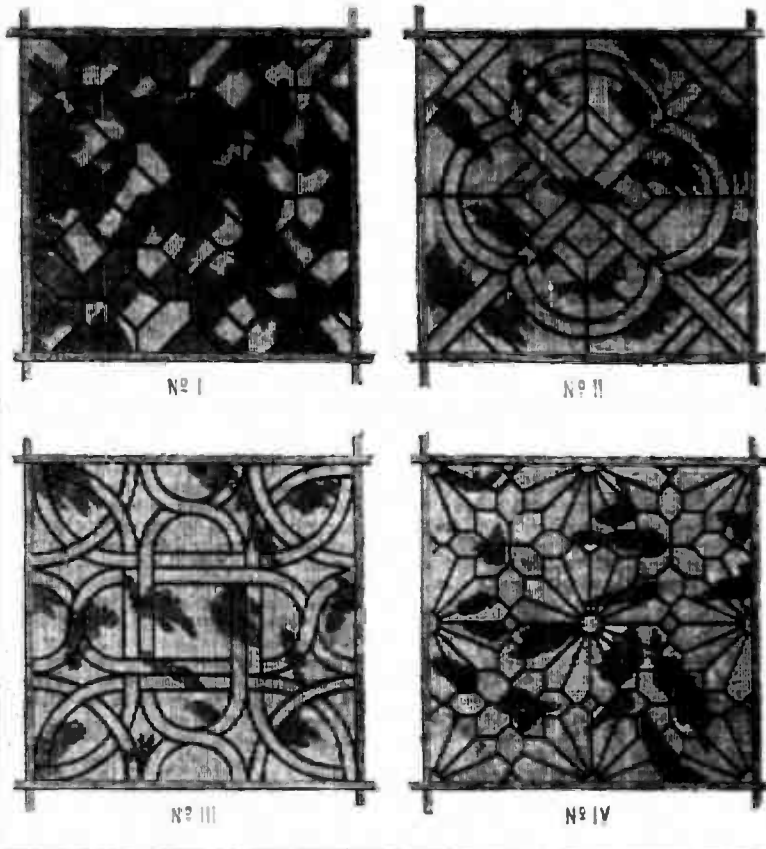
From the evidence adduced before him, it appears that the sewerage, so far as it has been carried out, is deemed unobjectionable; indeed, the inspector complimented the town surveyor, Mr. P. Smith, on the fact that "unlike many other towns, Birmingham would not be required to undo anything of what they had done with regard to the sewerage." But the great evil there to provide against was the want of sufficient power to compel parties to lay in their drains. Throughout 4½ miles 71 yards of the new sewerage of 1845, only about seventy-five private drains had been laid in. Whereas privies, water-closets, and open cesspools, without such issue, not only abounded, but were on the increase. In more than one of the more aristocratic parts of the town, the water-closet refuse was regularly emptied into the street gutters! The town surveyor considered that the Commissioners for whom he acted should have power to form the drains as well as the sewers.

The defective supply of water,—the unwholesome state of some of the grave-yards, the clerical proprietors of the worst of which had refused to abate the nuisance,—the unhealthy state of courts and lodging-houses,—the prevalence of local nuisances, in shape of foul ditches, slaughter-houses, &c. &c., were also all discussed. It appeared, however, that as far as possible an effective system of street cleansing by machines and otherwise was adopted, and that Birmingham had by no means a bad pre-eminence as to fever or general mortality compared with Manchester, Sheffield, &c.

The Hull Inspector was Mr. Smith, of Deanston. Great complaint was made of the prevalence of pulmonary diseases in this district, an evil more particularly attributed to the saturation of the soil with undrained moisture. But the general mortality is greatly more than the lowest estimate at which the Board of Health think it right to interfere.

* See vol. vi., p. 577.

FORMS FOR WINDOW GLAZING.



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We give the annexed specimens of glazing from buildings on the continent, as suggestions. Nos. 1 and 4 are from the Church of St. Denis, St. Omer; No. 2 from the Church of St. Etienne, Beauvais; and No. 3 from the Church at Aire, in Flanders. Each pattern is about 2 feet square. We have others to follow.

ON A NEW FORM OF MALLEABLE
IRON FLOOR,

LATELY PATENTED BY MR. NATHANIEL BEARD-
MORE, CIVIL ENGINEER.

The paper on this subject, read by Mr. Barry, jun., at the Institute of Architects, as already mentioned, commenced by remarks upon the want of toughness in cast-iron, and its dangerous nature when highly heated, with a review of the comparative strength of cast and wrought-iron, as shown in the following table:—

Table of Comparative Qualities of Cast and Wrought-iron.

| | Power to resist Tension. | Power to resist Compression. | Safe limits of Tensile Strength. | Price. |
|--------------|--------------------------|---------------------------------|----------------------------------|--------------------------|
| | Per square inch. | Per square inch. | Per square inch. | Per ton. |
| Cast-iron | 7 tons. | 16 tons. | 4 tons. | 1 <i>l.</i> 10 <i>s.</i> |
| Wrought-iron | 24 tons. | 33 tons. | 15 tons. | 2 <i>l.</i> 10 <i>s.</i> |
| | | Maximum by Hodgkinson, 25 tons. | | |
| | | Rankine, 21.5 tons. | | |
| | | Bechman, 22 tons. | | |

From this it will be seen that, while the tensile strength of wrought with respect to cast iron may be computed at 4 to 1, their prices are in an inverse ratio, viz. as 3 to 1. It should, however, be remarked that in the case of cast iron, 4-7ths of ultimate strength cannot be safely exceeded, while in the case of wrought-iron, although 3-3rds of the ultimate strength is the load to be assumed for practice, a much higher proportion can be borne by it as a passing load, from its non-liability, as in the case with the former material, to fail at

Dr. Daly declared that house drainage in Hull had virtually no existence. Even the chief place of business is not half drained, and yet the inhabitants themselves appear to be ostentatiously anxious to promote the salubrity of their respective neighbourhoods, or at all events their own individual reputation for cleanliness, as Mr. Smith remarked that "in many streets which were in a very defective condition, the inhabitants paid particular attention to the cleanliness of the flags in front of their doors." Some of the graveyards appear to be in a bad condition. St. Mary's, in Lowgate, had no drainage whatever, and rises 6 feet above the old level of the street from the mere accumulations of human remains. The wells near it are polluted, and a heavy odour prevails all round it. Many of the inhabitants make most piteous complaints about the dirty, stinking, brackish, hard, Hull water with which they are, medically speaking, still cleared out. Others stoutly uphold its salubrity, even while admitting that it is impregnated with all the sewerage of Beverley and Hull. The supply too is not sufficient.

The Manchester alderman, Mr. Hopkins, in course of a comprehensive and able disquisition, in the Royal Institution, on the various requisites to the healthfulness, comfort, and business convenience of the city—a disquisition which we cannot venture even to broach—alluded to the water-works now in course of construction by the corporation to the east of the town. There, he remarked, "will, at an early period, furnish a supply of twenty millions of gallons of water each day, and, if it should be required, thirty millions. As the quantity furnished at present is only about three millions, it is evident there will not only be sufficient to supply the inhabitants, flush the sewers, and wash the streets, but also to use for any other public purpose that may be thought desirable, such as watering the streets, supplying fountains, &c. &c. This water is intended to be conveyed to every dwelling in the borough; and, as it will always be on—by night as well as by day—no want of it will be experienced by the poorest inhabitant."